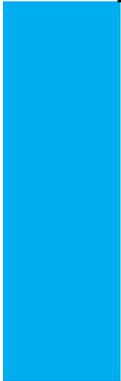


Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examcommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Gergana Negovanska
Student number	5861586

Studio		
Name / Theme	Methods of Analysis and Imagination : A Matter of Scale	
Main mentor	Dr. Jorge Mejia Hernandez	Architecture, Methods of Analysis and Imagination
Second mentor	Freek Speksnijder	Building Technology
Argumentation of choice of the studio	The studio explored the problem of scale in the context of Tallinn, Estonia, through diverse methods of analysis. The topic aligns with my interests in the various scales that architecture operates on (time, space, culture, economy) and also Eastern European architecture and the problems architects face when intervening in such complex environments, where many ideologies have played a role in shaping the urban context.	

Graduation project	
Title of the graduation project	Min(d)ing Limestone : A Tallinn Quarry Theme Park
Goal	
Location:	Väo Quarry, Tallinn, Estonia
The posed problem,	Lying on a bed of limestone, historically and geologically Tallinn has been a city of limestone. This specific condition of the city used to be taken as an expression of local context and national identity by architects in the past such as Herbert Johanson and Reine Karp. However, the physical, cultural, symbolic and ideological dimensions of limestone are now undermined by the shifting economic, architectural and technological values. In Peter Hansdell's opinion, the material was grounding the city to its landscape until Soviet planning went against the natural growth of the city, leading to a disconnection between the ground and the urban fabric, but also in fragmentation of the city itself. Through the spatial,

	<p>material and scalar contrast, Tallinn is a fragmented city of contradictions, contrasts and unrealised visions. Despite the presence of 24 active quarries and limestone export being an important aspect of Estonian economy, the art of working with limestone is almost forgotten, as the material is mainly used as aggregate for roads. On the other hand, while the demand for limestone is increasing as the city is expanding, the quarries are near the most densely populated areas, limiting the demanded expansion of the quarry.</p> <p>At the same time, Tallinn is a popular tourist destination precisely because of its heterogeneous architecture. This has led to the disneyfication of the medieval Old Town often described as a medieval theme park or open air museum with carefully preserved facades, themes tourist shops and restaurants, and mostly Airbnbs. Many locals see the adverse effects of this, as the city no longer represents Tallinn – what it has been and what it is today. Decay has been erased and hidden behind the plaster walls.</p> <p>The biggest active quarry in Tallinn, the Vao quarry, is unique because of its location within the city. For 80 years of extraction, the ground has undergone intense carving, exploding, blasting filtering, crushing, moving, and cleaning, by machines, producing noise and dust in the process of fragmenting the landscape into aggregates.</p> <p>In 2 years, the deposits will be depleted. Letting it decay would cause its flooding and becoming a vast quarry lake. The city administration has developed alternative plan for its 'return to the city' - by filling it to the original elevation, erasing it from the landscape and the memories of the people, making space for the next technological park of Tallinn. With my project, I explore the problem of how could be could be done otherwise. How could the quarry be returned and re-integrated into the city in a more creative, ethical, and sensitive way that celebrates the history and value of limestone and the spaces associated with its formation and extraction for the city.</p>
<p>research questions and</p>	<p>Main Research Question</p> <p>How could a post-industrial landscape of a quarry be re-integrated into the city in a creative and sensitive way that celebrates the history and value of its materiality?</p> <p>Supporting design questions</p>

	<p>How can an architectural material help activate avoided fragments in the city and reconnect them to urban life and the landscape?</p> <p>What is the role of limestone in Tallinn's architecture historically and today?</p> <p>How could a project respond to material decay and highlight issues of extraction, finiteness and historical value in a sustainable way?</p> <p>How to design 'a new ruin'?</p> <p>How would keeping a quarry increase its value for the city?</p> <p>How can a design intervention take advantage of the process of fragmentation and decay?</p>
<p>design assignment in which these result.</p>	
<p>Resulting from the contextual, conceptual, theoretical and disciplinary analysis performed on Tallinn, the design consists of a speculative proposal for the redeveloping the Vao Quarry into a Limestone Quarry Theme Park () that allow the people of Tallinn to learn about, experience and reconnect to Tallinn's unique history, materiality and landscape in a playful and fun way. Taking into account the vast scale of the quarry, not just two-dimensionally, but also its significant depth, the proposal consists of an urban plan that includes a landscape and architectural design, which are informed by the specific scale, operations, elements, topographic and material conditions of the site and propose strategies for reintegrating the site to the city.</p> <p>The aim of the project is to bring awareness of the fate of this type of reciprocal landscapes, the changing value of limestone and its temporality through the architecture, which becomes an imaginative landscape celebrating the properties and uses of limestone. The main focus would be on the design of an entrance tower and a central indoor water-park that metaphorically represent the formation and decay of limestone. By having constantly flowing water on the building (as different water slides), this will dramatise the decay of its limestone exterior. The various attractions, such as roller coasters, water slides, swimming pools, splash pads, and lakes, as well as spa, relaxation and sauna zones, will offer a unique experience of the quarry's landscape features and the material, making it a place for both locals and tourist to enjoy, learn and come together.</p> <p>By taking this as its theme, the park would critically engage with aspects of tradition, materiality and tourism that have led to the disneyfication of the Old Town through the rides that show the scarcity of the material in the quarry landscape. The development of the programme follows the process of limestone mining. In this way the design becomes a catalogue in itself of different processes</p>	

and different attractions positioned in the landscape. The outcome of the project would be a theme park map and a catalogue with attractions. Due to its topography – imagine possibilities to offer a unique experience of the site through architecturally curating the site.

Process

Method description

For the research, I worked through an assembled collection of images, maps, and texts the research develops as an exploration of different conditions of fragmentation present in the city of Tallinn on urban and building scale and incorporates material culture, ecological and semiological approaches. The initial theoretical research into the key concept of fragmentation and the object of research – limestone, was supplemented by a mix of qualitative, historical, and disciplinary research through mapping, cataloguing, drawing and analysis of case studies.

With regards to each research question, a different method was used:

- **How could a post-industrial landscape of a quarry be re-integrated into the city in a creative and sensitive way that celebrates the history and value of its materiality?**
Methods: literature research and case study research of existing approaches to the design of quarries, for each of which the types of programme inserted, aspects of access, materiality, scale, and approach to the found ground condition were analysed
- **How can an architectural material help activate avoided fragments in the city and reconnect them to urban life and the landscape?**
- **What is the role of limestone in Tallinn's architecture historically and today?**
Methods: Literature review of book on Tallinn history, stonemasons guild, case studies, a comparative timeline and a map of when and where important limestone buildings were built. Photographic documentation of how limestone is used, when, where, what is its condition today. For this, a visit to the Carved Stone Museum in Tallinn was an important aspect of the research, as it provided me with information on the history of limestone in Estonia.
- **How could a project respond to material decay and highlight issues of extraction, finiteness and historical value in a sustainable way?**
Methods: Theoretical research into theories of preservation, sustainable materials, reciprocal landscapes, extraction processes and value theories. In addition, case studies will be evaluated in their response to those specific conditions in Tallinn.
- **How to design 'a new ruin'? How can a design intervention take advantage of the process of fragmentation and decay?**
Methods: Catalogue of fragments. Tracing material circulations, showing the visible and invisible processes of fragmentation and relating them to the

landscape they originated from. Mapping voids and ruins as a way of uncovering potential sites.

- How would keeping a quarry increase its value for the city?

By bringing together the flow of materials, urban processes and landscapes in a design of a theme park dedicated to limestone, the project would make use of the results of the research.

Mapping the quarry topography, I developed a series of analysis diagrams that helped me devise an urban strategy to the specific site.

Due to the complexity of the urban situation and the specific conditions of the quarry, a number of notable precedents have been studied (see List of Reference Projects), that provide insight into the possibilities and restrictions, form and functions that could be applied to my site. In addition, several books and projects of theme park have been studied in depth to help organise the programme and understand the logics of the design of this type of immersive worlds. By re-drawing, diagramming and collaging the reference projects, I gained an understanding of the scale, type of spaces and general layout of those spaces and discovering techniques, decisions and problems that apply to my own design. The precedents have also been very helpful in developing a distinct visual style for the project.

Key challenge was consolidating and synthesizing the findings of the research into a site, programme, form and purpose and after reviewing numerous options through site analysis, mapping, precedent research and theory reading, I decided that the site of Vao Quarry as a theme park best represented both the limestone history and the contemporary challenges of Tallinn that I was interested to tackle in the design.

Literature and general practical references

Key sources:

On Fragmentation

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Martínez, Francisco. 'Tallinn as a City of Thresholds'. *Journal of Baltic Studies* 46, no. 2 (3 April 2015): 127–55. <https://doi.org/10.1080/01629778.2014.9816>

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Bityukova, Liidia. 'Air Pollution Effect on the Decay of Carbonate Building Stones in Old Town of Tallinn'. *Water, Air, and Soil Pollution* 172, no. 1 (1 May 2006): 239–71. <https://doi.org/10.1007/s11270-006-9078-1>.

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Hasdell, Peter. 'Tallinn : A Map of Provisional Territory', *Nordic Journal of Architectural Research*, 11, no. 1–2 (1998): 69–82.

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Koolhaas, Rem. *Delirious New York. A Retroactive Manifesto for Manhattan*. New York: The Monacelli Press, 1994.

Mittermeier, Sabrina. *A Cultural History of the Disneyland Theme Parks: Middle Class Kingdoms*. Intellect, 2020.

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Scott, Lukas. *The Immersive Worlds Handbook. Designing Theme Parks and Consumer Spaces*. New York/London: Focal Press, 2013.

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Sorkin, Michael, ed. *Variations on a Theme Park. The New American City and the Death of Public Space*. New York: Hill and Wang, 1992.

On material culture

Bourdieu, Pierre. *Pascalian Meditations*. Translated by Richard Nice. Stanford, California: Stanford University Press, 1977.

Easterling, Keller. 2003. "Subtraction." *Perspecta* 34: 80–90.

Hutton, Jane. *Reciprocal Landscapes; Stories of Material Movements*, Routledge: New York, 2020.

Kubler, George. *The Shape of Time: Remarks on the History of Things*. New Haven/London: Yale University Press, 1962.

Wilkinson, Tom. 'Life in Ruins: The Fetishisation of Decay in Contemporary Architecture'. *Joachim Otto Habeck and Frank Schmitz (Eds.), Ruinen Und Vergessene Orte: Materialität Im Verfall - Nachnutzungen - Umdeutungen (Bielefeld: Transcript, 2023)*, 1 January 2023.

https://www.academia.edu/99070164/Life_in_Ruins_The_Fetishisation_of_Decay_in_Contemporary_Architecture.

Key reference projects:

Banksy. *Dismaland*. Weston-super-Mare, Somerset, England, 2015.

FORREC. *Dollywood*. Pigeon Forge, Tennessee, USA, 1961.

Gabriel, Larry. *Quarry Adventure Park*. Rocklin, California, USA, 2018.

Iosif, Dumitru. *Salina Turda Salt Mines*. Turda, Romania, 2010.

Jacques Ferrier Architecture. *Water Park Aqualagon*. Bailly-Romainvilliers, France, 2017.

Pikionis, Dimitris. *Landscaping and St Dimitris Loumbardiaris Church at the Acropolis*. Athens, Greece, 1951-7.

Pieck, Anton. *Efteling*. Kaatsheuvel, The Netherlands, 1952.

Reynolds, William H. *Dreamland*. Coney Island, USA, 1905.

Studio Hp As + L.E.FT. *Vertical Landscape Urbanism*. Holmestrand, Norway, 2009.

Thompson, Frederic. *Luna Park*. Coney Island, USA, 1903.

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The graduation topic of the Methods studio addresses the matter of scale in the context of Tallinn, Estonia. The choice of my project topic on limestone and the specific spatial conditions of a complex post-industrial landscape, such as the quarry in Tallinn directly relate to the theme of scale. The project explores how such a massive in scale urban ruin or fragment could be re-incorporated through a series of strategic architectural interventions into the city and in a neighbourhood characterised also with its lack of human scale. The project also deals with aspects of timescale, culture-scale and economies of scale. I believe this project would creatively address the historical, social, symbolic and environmental significance of this material for the city of Tallinn, while also addressing the problems associated with its extraction, use and decay. This relates to the fostered by the Architecture Track programme, which encourages the development of creative and innovative building projects and in the way it considers the different scales on which architecture operates – from the conceptual to concrete, from technical to theoretical, and from building to city scale.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

The different contextual, theoretical and disciplinary research methods provided me with a broad perspective on the topic and helped me establish my position and that of the project within the complex entanglement of material, human and natural processes. The methods and theories I have considered in my research have helped me establish a reciprocal relationship between the landscape, material and city,

from which the quarry is re-evaluated as a valuable asset for the public, local economy and tourism even after its deposits are finished. The value of limestone goes beyond its material state, as what the research stresses is its symbolic capital. The programme of a critical theme park within the quarry fits into current architectural and sociological debates on the design of immersive worlds, such as theme parks and could provide an interesting new approach through the choice of its theme, site and architectural approach raising important questions about material scarcity, finishedness, finiteness, and decay and play. The project focuses on the need for unfinished places and the creative potential of such conditions as material decay and post-industrial landscapes. It highlights the importance and potentials of a specific local material and the spaces of extraction associated with it in social, architectural and cultural way.

The project takes a position in the existing academic debate on questions relating to fragmented city planning, scale and re-integration of post-industrial landscape with specific focus on the politics of preservation and restoration, which it provocatively challenges through the creation of a critical theme park focused on decay. This could help design other such landscapes as public spaces, addressing the need for unfinished and constantly evolving design.